

HOWARD COUNTY



Selection of Focus Area

The Howard County Board of Health selected the topic of Chronic Disease for analysis, as additional areas of interest are being investigated in other forums. At the first community meeting for this effort, data on asthma, chronic obstructive pulmonary disease (COPD), diabetes, multiple sclerosis (MS), osteoporosis, and arthritis were presented. After discussion, the community members chose asthma and diabetes as topics to study for the Howard County component of the Maryland Health Improvement Plan.

DEMOGRAPHIC OVERVIEW

Estimated Population, by Race – 1998

Total	236,380
White	78.3%
Other	21.7%

Estimated Population, by Age – 1998

Under 1	3,340	18-44	107,380
1-4	13,250	45-64	50,930
5-17	44,460	65+	17,020

All causes Mortality Rate (age-adjusted, per 100,000 population) 1996-1998 412.7

Infant Mortality Rate 1995-1999 4.6

Estimated Mean Household Income – 1999 \$91,000

Estimated Median Household Income – 1999 \$75,500

Civilian Unemployment Rate, Annual Average – 1999 1.8

Labor force (Top 4) – 1995

Services	43,400	Government (Federal, Military)	13,400
Retail Trade	22,100	State & Local Government	11,800

Sources: Maryland Vital Statistics, 1999
Maryland Department of Planning, 1995, 1998, 1999

Focus Area 1 - Reducing the Effects of Asthma

Definition

Asthma is a chronic lung disease characterized by airway constriction, mucus secretion, and chronic inflammation, resulting in reduced airflow and wheezing, coughing, chest tightness, and difficulty breathing (Healthy People 2010). For a person with asthma, everyday things can trigger an asthma attack, such as air pollution, allergens, exercise, infections, emotional upset, or certain foods. Typical symptoms of asthma include coughing, wheezing, tightness in the chest, difficulty breathing, a rapid heart rate and sweating. Children with asthma often complain of having an itchy upper chest or develop a dry cough, which may be the only sign of asthma.

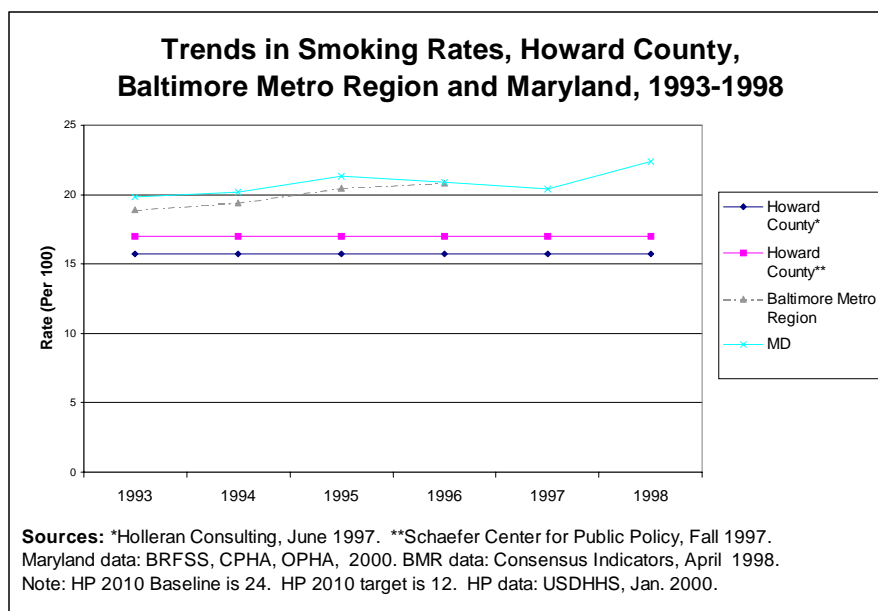
Problem

The American Lung Association (1999) estimated that there are 188,974 adults in Maryland with asthma. The estimated prevalence of asthma in children age birth to 19 years is 7% of the general population. Therefore, in Howard County, the estimated prevalence of asthma is 3,663 persons under the age of 19. In Howard County Public Schools, 6.89% of the students have asthma. The asthma rate in Howard County Head Start children is 18%. While the number of adults with asthma is greater than the number of children with asthma, the asthma rate is rising more rapidly in preschool-age children than in any other group (Healthy People 2010).

Determinants

According to the Asthma in America Survey (1998), asthma affects an estimated 15 million Americans, more than five million of whom are under the age of 18. The American Lung Association (1999) reports that asthma is the most common cause of chronic illness in children, resulting in more school absences and hospitalizations than any other condition. More than 95,000 Maryland children live with asthma.

Minority children are disproportionately affected. African-Americans are especially at risk for asthma. Children and adults in all racial groups have experienced substantial increase in asthma incidence over the last two decades. The number of people with asthma increased by 102% between 1979-80 and 1993-94 (Healthy People 2010).



Factors associated with increased prevalence of asthma include:

- Environmental factors, including indoor air quality and environmental tobacco smoke;
- Patient compliance;
- Access to care; and
- Socio-economic status.

While the reasons for the increased prevalence are not well understood, many factors that contribute to asthma's severity can be addressed. In this way, the toll of the disease can be reduced.

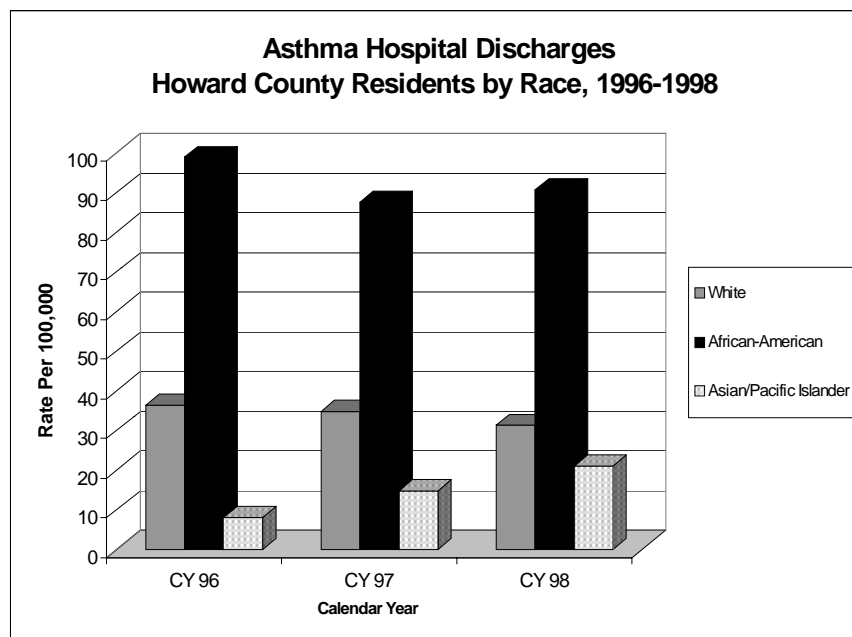
Effective management of asthma comprises four major components:

- Assessment and monitoring;
- Controlling exposure to factors that trigger asthma episodes, including environmental tobacco smoke;
- Adequately managing asthma with medication tailored to the severity of the disease; and
- Educating asthma patients to become active partners in their own care.

Asthma patients need to be able to recognize the signs and symptoms of uncontrolled asthma and know how to respond appropriately.

High-Risk Sub-Population:

Reduce the disparity between white, African-American and Hispanic populations in Howard County. Although asthma is a chronic disease that presents itself most often with emergency room visits, analyzing the race disparity of hospital discharges due to asthma is also helpful. African-Americans are seen more than twice as often in Howard County as whites, and about four times as often as Asian/Pacific Islanders among Howard County residents.



Source: DHMH, OPHA, HSCRC Hospital Discharge Data, 2000.

Objective 1 - By 2001, form a coalition to address asthma in Howard County. (Baseline: developmental)

Action Step

- ⇒ Recruit members, including: consumers, family members, managed care organizations (MCOs), healthcare providers and their staff, school system (health educators, nurses), caregivers, media representatives, and legislators.

Objective 2 - By 2003, develop tools that would allow effective assessment and monitoring of provider care and patient compliance using the National Asthma Education and Prevention Program (NAEPP) Guidelines for Diagnosis and Management of Asthma (1997). (Baseline: Developmental)

Action Steps

- ⇒ Collect baseline surveys on asthma in Howard County (i.e. number of School Health Services visits and zip code analysis of hospital admissions and emergency room visits).
- ⇒ Analyze data from existing surveys.
- ⇒ Develop other surveys as needed. Survey indicators will explore number of people affected, demographics, payor status, interventions used, costs, provider care, use of preventive and rescue medications, patient compliance, and where services are provided for the uninsured.

Objective 3 - By 2006, link 70% of existing partners (10) in the treatment and management of patients with asthma according to NAEPP Guidelines.

Action Steps

- ⇒ Monitor provider care and where services are provided for the uninsured.
- ⇒ Develop an Asthma Management Office Visit Protocol to monitor provider care with physicians, National Institutes of Health (NIH), the Department of Health and Mental Hygiene (DHMH), insurance companies, and MCOs. This will then assure complete and appropriate asthma care in physicians' offices which will reduce hospitalization and emergency room use.
- ⇒ Provide education to health care providers, pharmacies, and consumers on the difference between maintenance and rescue medications.

Objective 4 - By 2005, improve asthma management in schools.
(Baseline: Developmental)

Action Steps

- ⇒ Coordinate collaboration between physicians and School Health Services with asthma management plans.
- ⇒ Explore the linkage between Howard County General Hospital and Howard County Public Schools in assuring that students seen in the emergency room have asthma management plans forwarded to their schools.

Objective 5 - By 2010, 25% of schools within Howard County Public Schools will have designated School Environmental Teams to improve the environmental factors affecting the quality of life of persons with asthma.

Objective 6 - By 2010, institute a “Master Home Environmentalist” program in five high-risk neighborhoods where residents are hired and trained to conduct home assessments of identified families in their communities.

Objective 7 - By 2006, conduct two educational campaigns on environmental factors affecting the quality of life of persons with asthma.

Action Steps

- ⇒ Implement a secondhand smoke campaign with the Child Care Resource Center targeting Head Start Centers, Public/Private Day Care Centers and Licensed Providers.
- ⇒ Submit press releases to the local media to increase the awareness of the effects of outdoor pollution (i.e. “Ozone Action Days”) on asthma.

Objective 8 - By 2004, collaborate with the Coalition for a Smoke-Free Howard County to increase efforts related to environmental tobacco smoke.

Action Steps

- ⇒ Increase public policy efforts related to environmental tobacco smoke in the home and workplace.
- ⇒ Provide education about environmental tobacco smoke.

Objective 9 - By 2003, provide 30 asthma education programs.

Action Steps

- ⇒ Child Care Resource Center: Implement Sesame Street “A is for Asthma,” a program for providers, parents, and four-year-olds.
- ⇒ Schools: Implement “Open Airways for Schools,” designed for administration, faculty and staff, and third through fifth graders with asthma. Coordinate use by Hospital Community Outreach programs, home visiting by Public Health Nurses, and others.
- ⇒ Providers: Present educational sessions in venues where pediatricians and family physicians are already in attendance, such as hospital staff meetings, specialty society, and Medical Society meetings.
- ⇒ Patients: Provide education about environmental allergens and how to decrease exposure.

Objective 10 - By 2008, present additional opportunities for health care professionals to become better trained in asthma management.

Action Steps

- ⇒ Include asthma-related articles in medical newsletters.
- ⇒ Provide an educational session for health care professionals to become certified in Asthma Education, available through the American Lung Association.

Objective 11 - By 2007, regulate pesticide use in public housing.

Objective 12 - By 2008, resurvey after implementation of plan described above to observe results.

Partners

Allergy and Asthma Foundation • American Lung Association • Child Care Resource Center • Coalition for a Smoke-free Howard County • Osteoporosis Diagnostic and Monitoring Center • Community Action Council • Howard County Board of Education • Howard County Health Department • Howard County General Hospital • Howard County School Health Council • Office of Children's Health, DHMH • Patuxent Medical Plan

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- American Lung Association. (1999, April). *American Lung Association Fact Sheet: Asthma in Children*.
- American Lung Association. (1999, April). *Estimated prevalence and incidence of lung disease*.
- American Lung Association. (1997). *Lung Disease Data*.
- Centers for Disease Control and Prevention. (1998, April 24). Surveillance for asthma in the United States: 1960-1995. *Morbidity and Mortality Weekly Report, Surveillance Summaries*, 47 (SS-1), 1-28.
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- National Institutes of Health; National Heart, Lung, and Blood Institute. (1997). *Highlights of the expert panel report 2: Guidelines for the diagnosis and management of asthma*. Clinical practice guidelines. NIH Publication No. 97-4051A.
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Focus Area 2 - Preventing Diabetes and its Complications

Definition

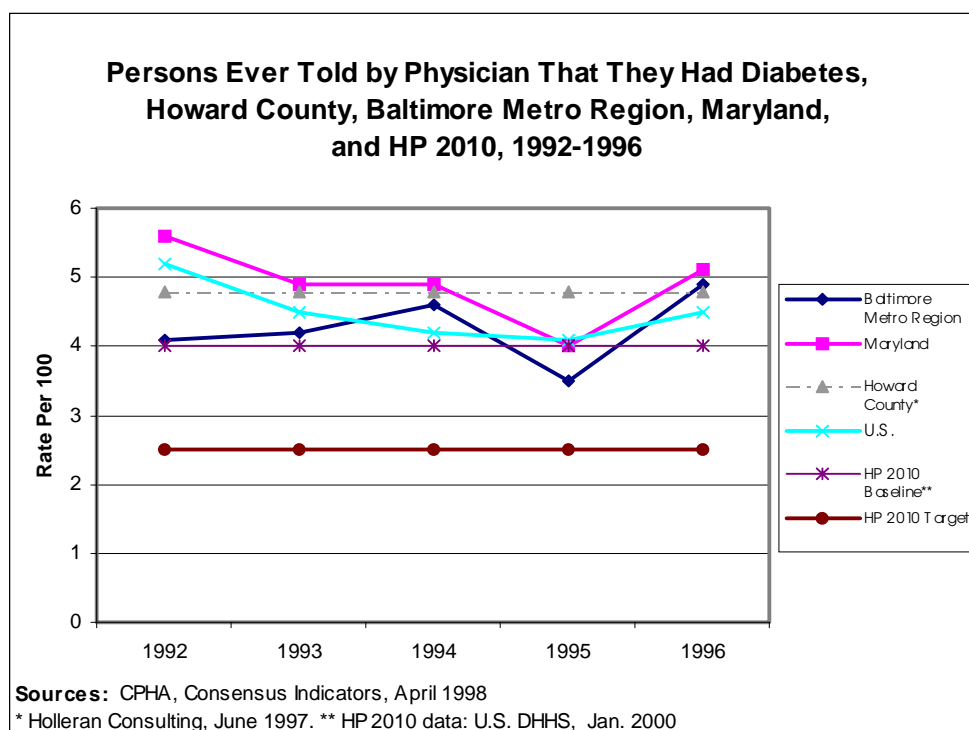
Diabetes mellitus is a chronic disease due to problems with insulin. Without proper treatment, complications can develop with the heart, nerve, foot, eye, and kidney.

Type 1 diabetes represents clinically about 5% of all persons with diagnosed diabetes. Its clinical onset is typically at ages under 30 years. Insulin therapy is always required to sustain life and maintain diabetes control for Type 1 diabetes.

Type 2 diabetes is the most common form of diabetes in the United States and the world, especially in certain racial and ethnic groups and in older persons. In the U.S., approximately 95% of persons with diagnosed diabetes (10.5 million) and almost 100% of persons with undiagnosed (5.5 million) diabetes probably have type 2 diabetes (Healthy People 2010, CDC and NIH data).

Problem

According to the American Diabetes Association, an estimated 300,000 men, women and children in Maryland have diabetes, although approximately one-third do not know they have the disease. Left undiagnosed or untreated, diabetes can lead to heart disease, blindness, kidney failure and amputations. In Howard County, it is estimated that 13,030 people have diabetes. Of these 8,548 are diagnosed and 4,482 are not.



In Howard County, at least 97 children have been diagnosed with diabetes. Older people living in Howard County are greatly affected by this disease, as 2,977 people aged 65 and older have diabetes. There are 663 new cases of diabetes.

Determinants

The mortality and morbidity of diabetes in Howard County includes the following: each year, there are 156 deaths, 56 amputations, 10 to 20 new cases of blindness caused by diabetes, and 82 people on dialysis or receiving a kidney transplant. The annual economic cost of diabetes in Howard County is staggering: \$36,598,290.12 in direct costs, \$44,731,243.48 in indirect costs, yielding a total of \$81,329,533.60 (American Diabetes Association).

High-risk groups include African-American, Hispanic, and American Indian populations. Risk factors are having a first-degree relative with diabetes, being obese, hypertensive and having a low high-density lipoprotein (HDL) cholesterol level and/or high triglyceride level.

In Howard County, 40.8% of adult males and 27.1% of adult females were overweight according to a Howard County Health Department Survey (1997; Sample size was 638). Only 4.8% reported having diabetes, half the number of those estimated to have diabetes. Almost 64% of those with known diabetes were not taking adequate care to control it. Of those surveyed, 50% of males and 50% of females with diabetes were overweight; 35% had high blood pressure; 60% added salt at the table; 39% ate two or more servings of high fat food per day; and 55% ate fast food more than once per week.

The same survey also indicated that 20% of those surveyed never exercised, and another 34% exercised less than three times a week. Thirty-four percent ate two or more servings of high-fat food daily, and only 13% ate five servings of fruits and vegetables daily. When asked why they do not eat fruits and vegetables, survey respondents answered that other food was more convenient (52.5% answered yes, 46.9% answered no); fruits and vegetables are too expensive (15.3% yes, 83.7% no); fruits and vegetables are not available (11.9% yes, 87.8% no); and respondents did not like the taste (11% yes, 87.7% no). This was self-reported information, and self-reporting generally under-represents risk factors.

Diabetes is the oldest known chronic disease in medicine, mentioned as far back as 1500 B.C. It is largely preventable and manageable but remains a problem due to three crucial issues:

- 1) We are not able to reduce the primary risk factor, i.e., obesity. Nationwide, obesity in adults and children is increasing every year.
- 2) We are not able to detect cases early enough. One-third to one-half of the cases of diabetes in Howard County do not know that they have the disease.
- 3) Also, we are not managing the known cases adequately. The 1997 Howard County survey clearly shows that 64% of cases are not providing adequate self-care.

Obesity

Healthy People 2010 Objective: Reduce the proportion of adults who are obese. (Target: 15%; Baseline: 23% of adults aged 20 years and older were identified as obese (Body Mass Index of 30 or more) in 1988-1994.

In Howard County, 40.8% of male and 27.1% of female respondents to the Howard County Health Department Survey (1997) were overweight by 120% of median.

High-Risk Sub-Populations

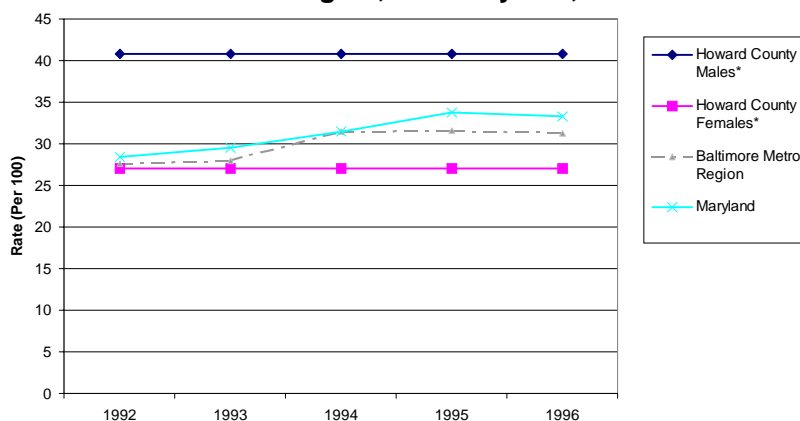
Healthy People 2010 Objective: Reduce disparity between white and other populations in Howard County. As additional county-specific data becomes available through implementation of this plan, efforts will be undertaken to address the disparity between white and other populations.

Objective 1 - By 2003, develop tools that would allow effective assessment and monitoring of provider care and patient compliance of diabetes. (Baseline: Developmental)

Action Steps

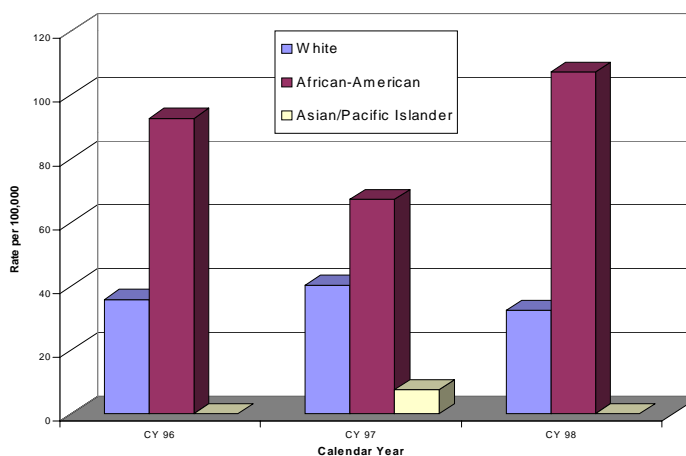
- ⇒ Collect baseline surveys on diabetes in Howard County (i.e. zip code analysis of hospital admissions and emergency room visits).
- ⇒ Develop other surveys as needed. Survey indicators to include number of people affected, demographics, payor status, interventions used, costs, provider care, medications used, patient compliance, and services provided for the uninsured.
- ⇒ Analyze data from existing surveys.

Overweight by 120% of Median, Howard County, Baltimore Metro Region, and Maryland, 1992-1996



Sources: CPHA, Consensus Indicators, April 1998. *Holleran Consulting, June 1997.
Note: HP 2010 baseline is 23, HP 2010 target is 15. HP 2010 data: U.S. DHHS, Jan. 2000.

**Diabetes Hospital Discharges
Howard County Residents by Race, 1996-1998**



Source: DHMH, OPHA, HSCRC Hospital Discharge Data, 2000

Objective 2 - By 2002, initiate public education in Howard County targeted to reach 90% of the adult population about the seriousness, costs and risk factors associated with diabetes, emphasizing the risk between obesity and diabetes.

Action Steps

- ⇒ Form a public awareness committee consisting of relevant partners. Collect relevant material, and develop a strategy for the campaign.
- ⇒ Develop press releases, cable ads, and a Web page.
- ⇒ Coordinate a Speakers Bureau to provide presentations to various community groups.
- ⇒ Distribute educational information through employers, church groups, and other community organizations.
- ⇒ By 2006, evaluate the public education campaign to assess the impact it has made on the public and modify the strategy accordingly.

Objective 3 - By 2010, reduce the risk of diabetes in Howard County by decreasing the incidence of obesity in children under the age of 18 by 10%. (Baseline: Developmental)

Action Steps

- ⇒ Increase the availability of and participation in non-competitive physical activity through collaboration with existing community agencies.
- ⇒ Increase children's awareness of healthy eating by refining the nutrition education component already in the school curriculum.

Objective 4 - By 2003, advocate for screening of 90% of the at-risk population for diabetes.

Action Steps

- ⇒ Advocate for diabetes screening to be offered in every routine health care visit by primary care physicians through health department mailings targeted at physicians in Howard County.
- ⇒ Advocate for insurance companies to cover routine screening of diabetes.

Objective 5 - By 2002, increase the availability of diabetes education meeting criteria set by the American Academy of Clinical Endocrinologists for both professionals and the public by 30 programs.

Action Steps

- ⇒ Provide “lunch and learn” seminar for health care professionals.
- ⇒ Provide scholarships for newly diagnosed diabetics to attend eight hours of diabetes education within three months of diagnosis.
- ⇒ Newly diagnosed diabetics will receive a brochure from their health care providers describing therapeutic and non-therapeutic measures, and the consumer’s and physician’s responsibilities.
- ⇒ Increase the number of diabetes education programs available through employers.

Objective 6 - By 2003, provide educational campaigns on testing schedules according to the American Association of Clinical Endocrinologists guidelines.

Objective 7 - By 2008, after implementation of plan, resurvey to observe results.

Partners

Columbia Association • Howard County General Hospital • Howard County Health Department • Howard County Public Schools • Howard County School Health Council • Patuxent Medical Plan

References

- American Diabetes Association. (2000, January). American Diabetes Association: Clinical practice recommendations 2000. *Diabetes Care*, 23, Supplement 1.
- U.S. Department of Health and Human Services. (2000). *Healthy People 2010*. (Conference ed.) Washington, DC: U.S. Department of Health and Human Services, U.S. Government Printing Office.

Cross-Reference Table for Howard County

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